

# Educational and Social/Emotional Considerations for Students With Cochlear Implants or Who Function as Hard of Hearing

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# Prevalence of Hearing Loss

- Hearing loss is the most common congenital condition affecting 3 per 1,000 live births
- Permanent bilateral hearing loss, greater than 40 dB in the better ear, occurs approximately 1.0 per 1,000 births
- 80% of elementary schools students (ages 4-10 years) suffer from temporary hearing loss at some time during the school year
- 22% of high school students suffer from noise induced hearing loss
- *Almost 15% of children ages 6-19 have some degree of hearing loss in one or both ears*

# Minimal Hearing Impairment

- Minimal Hearing Impairment is generally defined as auditory acuity ranging from 16 to 25 dB.
- Cochlear Implants restore hearing to 20 to 30 dB.
- Many educators, parents and related professionals believe that children with hearing in the 16 to 25 dB range fall within normal limits
  - however, this range of normal hearing applies *only to adults, and not to children*
- Children with any degree of hearing loss have a higher incidence of special learning problems

# Demographics In Wisconsin

- 2,200 students, ages 3-21, identified with hearing loss in the public schools
- 69% of these students are thought to be “hard of hearing” and 31% are considered “deaf”
- 5% are at the Wisconsin School for the Deaf, and 95% are in their home or neighboring school districts.
- It is estimated that more than 50% of DHH students have no deaf or hard of hearing peers in their school environment

# School Hearing Screenings

- Schools usually screen children with levels of 20 dB and more
  - Determines *significant* levels of hearing impairment
  - *Slight* levels of hearing impairment, below 25 dB, may not be identified during these screenings
- The Newborn Hearing Screening generally identifies infants with greater than a 35-40 dB loss
  - Sensorineural mild hearing loss generally remains undetected unless concerted efforts at identification are undertaken in infancy and at school age
- Less than 1% of children with hearing loss (including children with fluctuating hearing loss) are being served in schools (Pakulski & Kadervek, 2002)

Evidence suggests that children with any type and degree of hearing loss are at increased risk for developmental delays, particularly when the hearing loss is not identified or treated at all or not until after approximately 6 months of age (ASHA, 2006).

# Implications of MHL

- 37% failed at least one grade, compared to the district norm of about 3% nationwide
- Often diagnosed as “special educational needs”
- May be disguised by the co-occurrence of other educational or behavioral issues
- Perform 2-3 years behind hearing students on standardized achievement tests (Brackett and Maxon, 1986)



# MHL and LD

- As many as 38% of students identified as having learning disabilities had abnormal hearing (Ulrich, 2003).
- Students with MHL had higher levels of language delay and problems in other areas of academic learning, including;
  - low comprehension
  - low word usage skills
  - Speech problems
  - poor phonological awareness
  - less motivation and persistence during auditory activities
  - trouble retaining new vocabulary
  - trouble communicating
  - low overall reading development



# MHL and ADHD

- MHL has similar behavioral characteristics as ADHD
  - tendency to be tired, frustrated, and “act out” as a result of frustration, fidgeting and moving around in seats, and distractibility (especially when the room is noisy or there is background noise)
  - poor academic performance, and less motivation and persistence during auditory activities (due to the extra effort needed to listen)
- **Research shows that 68% of children identified as ADHD had abnormal hearing (Ulrich, 2003).**

# Behaviors Associated with MHL

- Difficulty following fast paced discussions
- Trouble distinguishing morphological markers that denote plurality, tense, possessives, etc., fatigue easily (especially on days with many listening activities)
- Daydream
- Misbehave
- Poor or inconsistent academic performance
- May give inappropriate responses to questions
- May have problems following directions

# Psychosocial Development

- Children with MHL also tend to lag in psychosocial development
  - appear immature
  - higher stress levels
  - lower self-esteem
  - less social support
- MHL can result in social isolation and poor self-concept due to difficulty communicating
- Children with MHL often report being without friends and feeling isolated and unhappy in school
- May also have lower aspirations, including forgoing higher education and high-level careers

# Self Esteem and MHL

- Higher self-esteem is associated with greater academic achievement (Desselle, 1994; Joiner, Erickson, Crittenden, and Stevenson, 1966; Koelle & Convey, 1982)
- Students with MHL tend to have lower self esteem compared to their hearing hears

# Social/ Emotional Effects of MHL

- Many students with hearing loss tend to:
  - Appear immature
  - Socially withdraw
  - Have higher stress levels, lower self-esteem, less social support, suffer social isolation, and have poor self-concept due to difficulty communicating
  - Appear to be insensitive, uninterested, dull or inattentive
  - May feel like a failure or be angry with themselves because they cannot manage communication difficulties
  - Have lower aspirations, may forgo higher education and high-level careers

# A Big Issue

Howard Stone, founder of Self Help for the Hard of Hearing (1985) states:

“We are people who do not hear well, but are not deaf. We tend, increasingly, to be isolated. The existing pattern of community life lacks both means of communication and institutions for us to solve our problems and live normal lives. **For too long, too many of us have accepted a loneliness we are unable to explain to our friends or even our families.**”

Research shows students with a range of hearing loss who are educated in public schools experience **an absence of close friendships.**

(Anita, Kreimeyer & Eldredge, 1994; Stinson, Whitmore, & Kluwin, 1996, Tvingstedt, 1993).



# Hitting Closer To Home

- “I don’t like going to school very much because I cannot understand one word in the hallway, classrooms, at lunch or anywhere.” (Mason, HS)
- “You are a wonderful pal. You are always writing back to me immediately. That’s good because writing actually makes me feel good about myself.” (Breanna, MS)
- “There are not many hard of hearing kids in my school. Making friends is not easy.” (Ellery, MS)
- “[At TGW] I learned that I’m not alone in the world.”
- “I like to talk a lot. But I don’t usually do group things. Because I feel like I don’t fit in. I feel like I fit in (at TGW) because everyone has the same problem. It’s like a home. A mini-home.” (Marcia, MS)

# MHL and Identity

- “**Identity** is the representation of the self. The self is a social construction because we develop a sense of who and what we are by observing and interpreting the responses of others” (Crocker & Quinn, 2000).
- **Students who function as Hard of Hearing often struggle with self identity, which results in poor;**
  - *self-acceptance*
  - *self esteem*
  - *self-advocacy*
  - *ability to cope*
  - *feeling of competency*

# Diverse kids, diverse issues....

- **Issues specific for students who are hard of hearing**
  - Peer Group - has no “hard of hearing” culture or community to identify to associate with
  - Appears “hearing” and is expected to “hear” although pieces are missing
    - resulting in “the big fake”
- **Issues specific to students with progressive hearing loss**
  - No chance to grieve
  - Ongoing change regarding the best way to communicate and receive information
  - No established role models, identity can change over time

Some children with  
MHL compensate for  
their hearing loss and  
show none of the  
previous  
characteristics.

# *Supporting Hard of Hearing and Cochlear Implant Students*

- Before intervention strategies can be given, it is critical that teachers are first educated on “Minimal” Hearing Loss and it is determined how much they know about its effects
- Research shows that teachers’ willingness to provide modifications and adaptations for their students depends on;
  - ease of implementation
  - benefit to entire class
  - maintains integrity of lesson

# Non-productive Student Strategies

- Non-productive compensation strategies
  - pretending to understand
  - socially withdrawing to avoid communication difficulties
  - dominating conversations to maintain an understood topic
  - showing feelings of anger, hostility, or self-pity
- Social/Emotional Implications of these strategies
  - can leave a student feeling depressed and isolated
  - can result in negative self-esteem and unproductive interpersonal relationships
  - students may appear to be insensitive, uninterested, dull, or inattentive, isolating themselves from others

# Classroom Interventions

- Interventions should begin with classroom acoustics
- The greatest effect on the hearing ability of children with MHL is background noise
  - Typical levels of noise in schools range from 45 dB to 60 dB within individual classrooms. (approximately equal to people talking or a vacuum cleaner. )
  - Open classrooms, gymnasiums, cafeterias and computer rooms typically have sound levels of 70 dB – 90 dB (approximately equal to city traffic or a food blender)



# Did you realize.....

- Sound is reflected off walls and tiled floors
  - Reverberation of sound makes listening even more difficult
  - Most classrooms have tiled floors and concrete walls
- Many people attempt to compensate for background noise by raising their voices
  - This actually causes distortion of the speech sounds.
  - The listener may be more likely to know that the teacher is talking but less able to understand what is being said because intelligibility is decreased.

# Signal to Noise Enhancing Devices

- Personal FMs and Sound Field systems have proven effective in improving attending behaviors of children with MHL
- Sound Field Amplification Systems have been proven to benefit all children, including normal hearing children, children with learning disabilities, and children with mild hearing loss (Pakulksi & Kaderavek, 2002).

# Signal to Noise Enhancing Devices

- Personal FM systems
  - *A poorly used personal FM system can make it more difficult for child with MHL to learn effectively in the classroom than if he or she had no amplification system at all*
  - It is critical that teachers are trained on appropriate use of the personal FM system and awareness is build around its uses and misuses

# Environmental Modifications

- Updated ventilation systems
- Turn music down/off during free time
- Add Carpet
- Cover bottoms of chairs with rubber caps, socks, or tennis balls
- Put small fiberglass panels or empty egg cartons at various wall locations to break up sound reflections
- Add curtains or window shades
- Position mobile bulletin boards and bookcases so they are perpendicular to the walls to stop sound travel
- Cover table surfaces with fabric
- Stagger desks or place in semi-circle rather than in rows

# Preferential Seating

- Will result in a sufficient improvement in his or her ability to hear
  - Only when the speaker stays within 3 to 4 meters of the child
  - Only when facing the child when speaking
  - Because of this, “front and center” may not be best

# Instructional Techniques

- Use Visual and auditory cues
- Use overhead projectors, which keeps the teacher facing the students while pointing out key points
  - However, be aware that overhead projectors cause additional background noise
- Computer projectors, posters, and graphic organizers
- Write assignments and other important information on the board

*\*\*\* Research shows that adding sign language as a visual component significantly increases reading skills and retention of vocabulary words for both students with hearing loss and without (Pukulsi & Kaderavek, 2002)*

# Instructional Techniques

- Students with “Minimal” Hearing Loss will perform better in the classroom when they can anticipate potential vocabulary and conversational content before the interaction occurs in the classroom
  - Give “pre-study” materials or pre-teach the content in advance
  - However, *do not add to work load by doing this*
- Message Delivery
  - Ask specific questions
  - Make specific points
- Clarification Strategies
  - Don’t ask, “Do you understand?”
  - Ask, “Can you tell me what you are doing?”
  - Break down directions into steps
  - Use clear, short sentences



# Student Strategies

- Advocacy Strategies
  - explain hearing loss and listening needs to teachers and peers
    - Keep in mind social development; do they want to be the same as everyone? Do they like to express their individuality?
  - Be able to find the best seating position in the classroom to maximize listening capabilities
    - Front and Center is not always best
  - Ask for repetition and clarification when the message was not understood
- Teachers always check for understanding in students with hearing loss
- Young students
  - Build awareness and model advocacy skills early
  - Role-play to help teach these skills
- Students respond best when they are part of the decision making process

# Social Interventions

- School Community
  - Lunch Bunch in quieter area
  - Study Groups
  - Small groups/classes (12 is an ideal size)
  - Seat so that everyone is visible (such as a circle or semi-circle)
  - Social Skills Instruction during DHH time or Speech and Language time
- Deaf and Hard of Hearing Studies
  - Incorporate famous deaf and hard of hearing people into curriculum
    - Builds identity for HoH student and acceptance for other students
  - Use/Modify Deaf Studies Curriculum
- Role models
  - Incorporate Hard of Hearing adults in the community
  - Utilize books with deaf characters
- Peer socialization
  - Provide opportunities with other students with hearing loss
  - Distant Pals Program
  - Teen Getaway Weekend

# The First Step?

The first step to supporting a student  
who has a cochlear implant  
or who functions as hard of hearing:

BRING TOGETHER THE TEAM!

REMEMBER

We're All In This Together!

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